

8th Grade Released Test: Calculator INACTIVE

1 The area of the surface of the Atlantic Ocean is approximately 31,830,000 square miles. How is this area written in scientific notation?

A 3.183×10^4

B 3.183×10^5

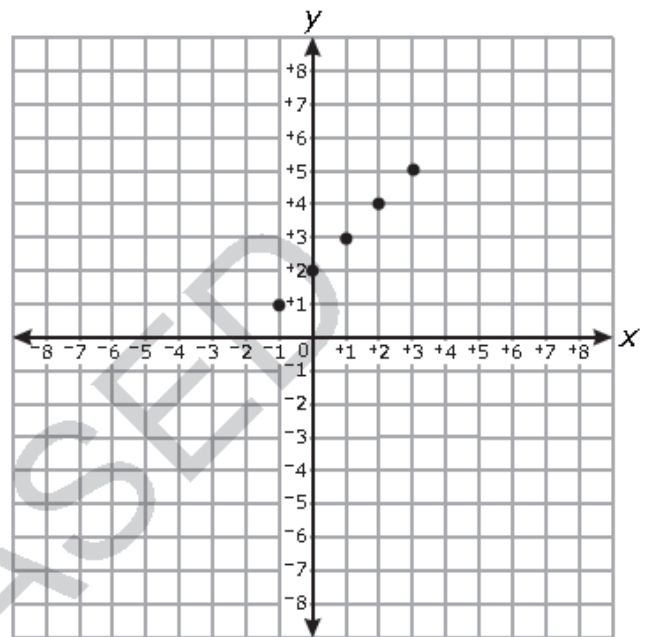
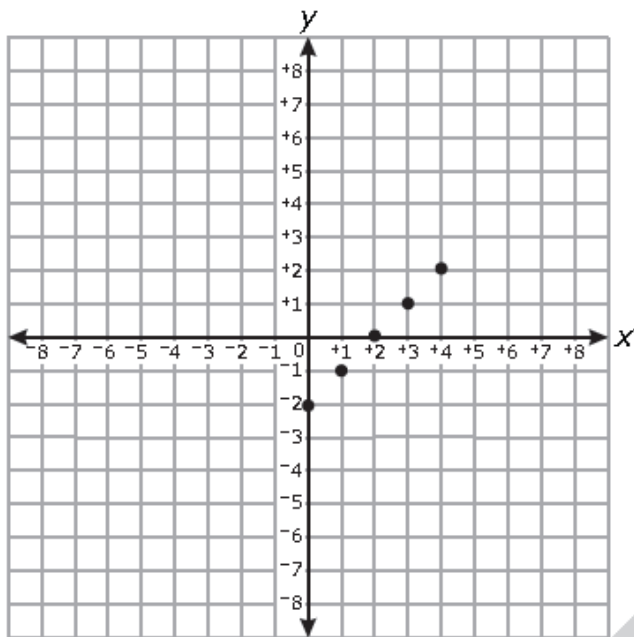
C 3.183×10^6

D 3.183×10^7

2 In which graph do all of the plotted points lie on the line $y = x + 2$?

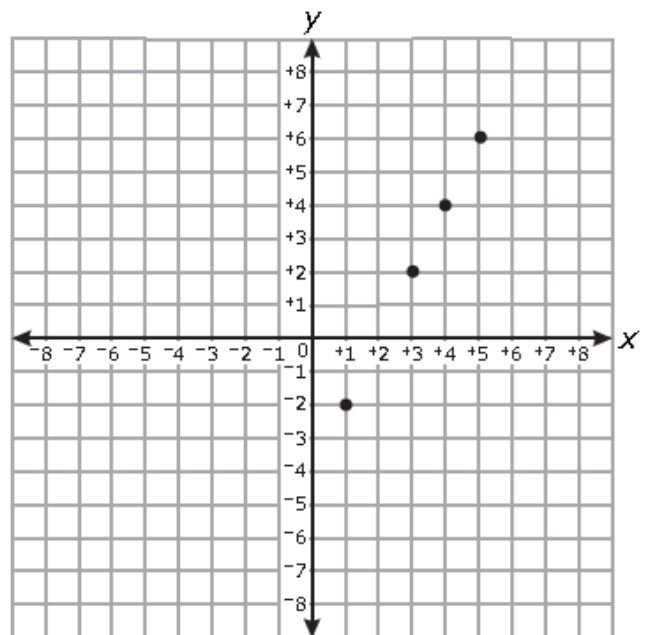
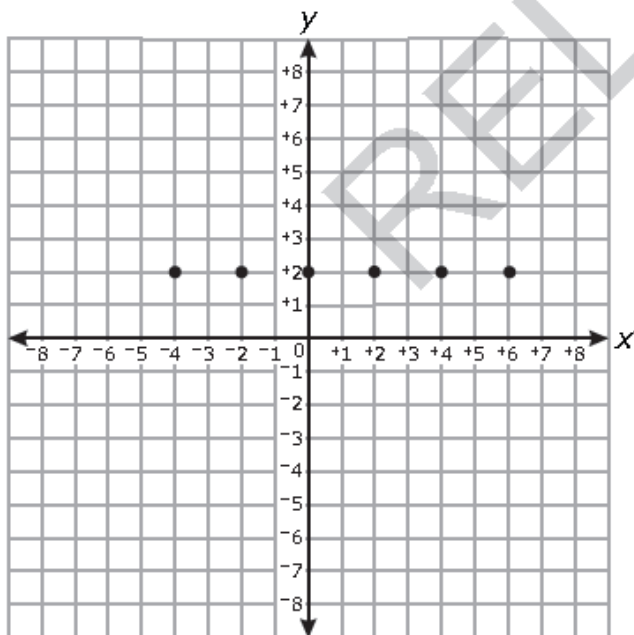
A

B

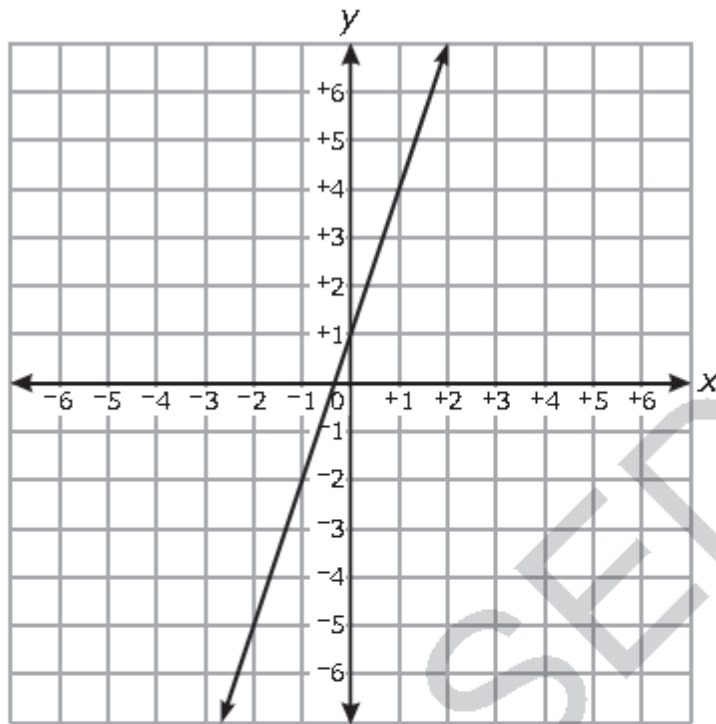


C

D



- 3 Which choice is a correct equation for the line graphed below?



- A $y = 3x + 1$
- B $y = 2x + 1$
- C $y = \frac{1}{2}x + 1$
- D $y = \frac{1}{3}x + 1$
- 4 Which function is nonlinear?

- A $y = \frac{3x + 1}{2}$
- B $y = -x$
- C $y = 2x(x - 4)$
- D $y = \frac{1}{2}x - 7$

5 In which choice do all the points lie on the same line?

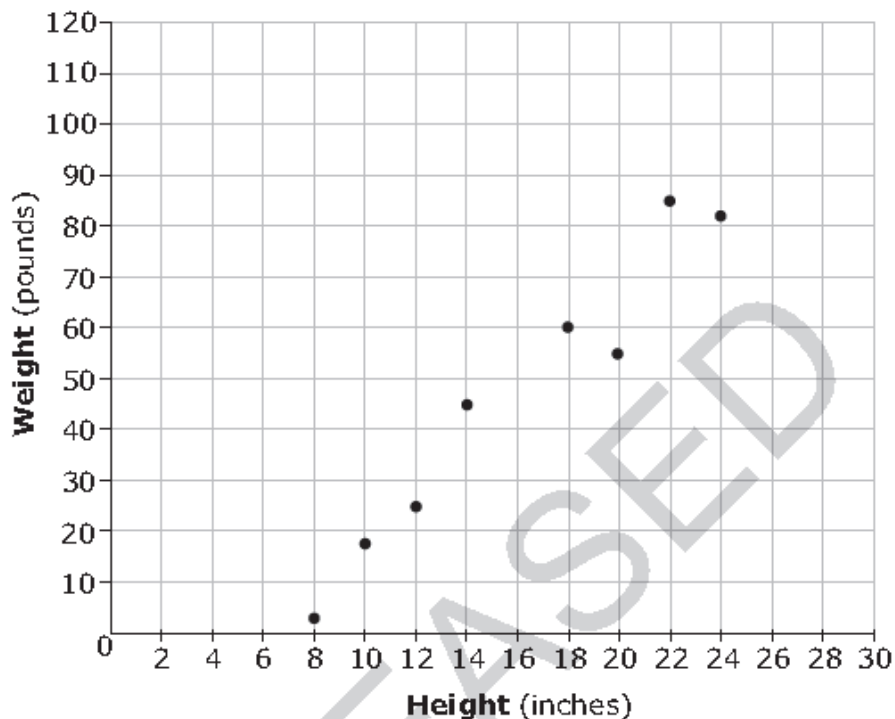
A $(0, -2), (1, -1), (2, 2), (3, 7)$

B $(0, 0), (1, 1), (2, 4), (3, 9)$

C $(0, 0), (1, 1), (2, 8), (3, 27)$

D $(0, 0), (1, 2), (2, 4), (3, 6)$

6 Sharon made a scatterplot comparing the shoulder heights of dogs to their weights.



Sharon's dog has a shoulder height of 28 inches. Using a linear model, which is the *best* prediction of her dog's weight?

A 85 pounds

B 90 pounds

C 105 pounds

D 120 pounds

Questions 7 through 15 require you to write your answers in the boxes provided on your answer sheet. Write only one number or symbol in each box and fill in the circle in each column that matches what you have printed. Fill in only one circle in each column.

7 What is the value of $0.\overline{36} \cdot \frac{11}{2}$?

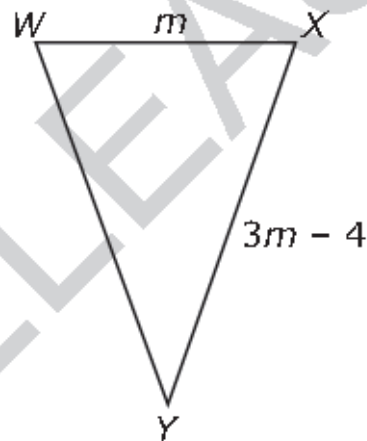
8 What is the sum of all the integers between $\sqrt{19}$ and $\sqrt{77}$?

9 On a number line, let point P represent the largest integer value that is less than $\sqrt{407}$. Let point Q represent the largest integer value that is less than $\sqrt{68}$. What is the distance between P and Q ?

10 What is the value of $\frac{4^3 \cdot 4^{-1} \cdot 5^{-2}}{4^4 \cdot 5^{-3} \cdot 5^0}$?

- 11 When 8 is added to the number that is produced by doubling the number x , the result is equal to 8 times the number that is 5 less than x . What is the value of x ?

- 12 In $\triangle WXY$, \overline{WY} is congruent to \overline{XY} . The perimeter of $\triangle WXY$ is 76 inches.



How many inches long is \overline{WX} ?

- 13 Kyle is a salesman. His monthly earnings include a fixed monthly salary and a commission that is a fixed percentage of his total sales for the month.
- Kyle's total sales for the month of January were \$15,000, and his total earnings for that month were \$2,550.
 - Kyle's total sales for the month of February were \$25,000, and his total earnings for that month were \$3,050.

What is Kyle's fixed monthly salary in dollars?

- 14 In the table below, y is a linear function of x .

x	y
3	5
5	-3
7	-11

What is the value of y when $x = 0$?

- 15 Beginning in 2000, a sports team increased its ticket price by a constant amount each year until 2010.

- A ticket cost \$48 in 2005.
- A ticket cost \$55.50 in 2008.

How much did a ticket cost in 2000?

Express the answer as dollars.cents.